CLAIMS

What is claimed is:

1. A method of managing packet voice networks using a virtual switch approach, the method comprising the computer-implemented steps of:

creating and storing a virtual switch object, wherein the virtual switch object represents a virtual switch having a media gateway controller and one or more associated media gateways;

receiving user input that specifies a configuration operation on the virtual switch and one or more parameter values; and

automatically issuing one or more configuration instructions to both the media gateway controller and the media gateway, resulting in configuring both the media gateway controller and the media gateway as specified in the user input.

2. A method as recited in Claim 1, wherein the virtual switch object is created as part of a network management application computer program, wherein the network management application is communicatively coupled to an operational support system and to one or more element management systems, and further comprising the steps of issuing one or more configuration requests to one or more of the element management systems as part of the step of automatically issuing configuration instructions.

3. A method as recited in Claim 1, wherein the virtual switch object is created as part of a network management application computer program that generates a graphical user interface that displays an icon representation of the virtual switch, and wherein the step of receiving user input comprises the step of receiving user input dragging the icon representation and dropping the icon representation in a data entry field.

4. A method as recited in Claim 3, further comprising the step of displaying the icon representation in an object holding area of the graphical user interface when the media gateway associated with the object is not then currently associated with a media gateway controller.

5. A method as recited in Claim 3, wherein the graphical user interface comprises a tree view of the virtual switch and each media gateway or media gateway controller associated therewith, a topology map of a network topology that includes the virtual switch, and an object holding area that displays un-associated network elements.

6. A method as recited in Claim 1, wherein configuration operation of the step of receiving user input is selected from among the set consisting of: associate/disassociate a media gateway from a virtual switch; add or remove or modify parameters of a primary rate interface (PRI) backhaul service; add or remove or modify a trunk, a trunk group, routes, or route lists; add or remove or modify a customer; or turn up or tear down or modify service for a customer.

7. A method as recited in Claim 1, wherein the virtual switch object comprises programmatic objects representing a media gateway controller, a media gateway, and associations between the media gateway and media gateway controller.

8. A method as recited in Claim 1, wherein the virtual switch object comprises programmatic objects representing: a media gateway controller; a media gateway; associations between the media gateway and media gateway controller; one or more connection termination points of the media gateway controller and the media gateway; one or more virtual trunks; and one or more physical resources.

9. A method as recited in Claim 1,

wherein the user input comprises user input selecting a virtual switch and user input selecting an "Add PRI Signaling Backhaul" function; and

wherein the configuration instructions instruct the media gateway and media gateway controller, as specified, to --

add a line with TDM endpoints and a CCS channel on the selected media gateway;

add a new trunk group at the media gateway controller and associate it with a customer;

add one or more trunks at the media gateway controller;

associate the trunks with a corresponding endpoint of the media gateway;

verify that a signaling backhaul connection has been set up;

set up a signaling backhaul connection if required;

set up a cross-connect between the CCS channel and the signaling backhaul connection at the media gateway, if required, as determined by the type of media gateway.

10. A computer-readable medium carrying one or more sequences of instructions for managing packet voice networks using a virtual switch approach, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:

creating and storing a virtual switch object, wherein the virtual switch object represents a virtual switch having a media gateway controller and one or more associated media gateways;

receiving user input that specifies a configuration operation on the virtual switch and one or more parameter values; and

automatically issuing one or more configuration instructions to both the media gateway controller and the media gateway, resulting in configuring both the media gateway controller and the media gateway as specified in the user input.

11. An apparatus for managing packet voice networks using a virtual switch approach, comprising:

means for creating and storing a virtual switch object, wherein the virtual switch object represents a virtual switch having a media gateway controller and one or more associated media gateways;

means for receiving user input that specifies a configuration operation on the virtual switch and one or more parameter values; and

means for automatically issuing one or more configuration instructions to both the media gateway controller and the media gateway, resulting in configuring both the media gateway controller and the media gateway as specified in the user input.

12. An apparatus for managing packet voice networks using a virtual switch approach, comprising:

a network interface that is coupled to the data network for receiving one or more packet flows therefrom;

a processor;

one or more stored sequences of instructions which, when executed by the processor, cause the processor to carry out the steps of:

creating and storing a virtual switch object, wherein the virtual switch object represents a virtual switch having a media gateway controller and one or more associated media gateways;

receiving user input that specifies a configuration operation on the virtual switch and one or more parameter values; and

automatically issuing one or more configuration instructions to both the media gateway controller and the media gateway, resulting in configuring both the media gateway controller and the media gateway as specified in the user input

13. A method as recited in Claim 1, wherein the virtual switch object is created as part of a network management application computer program that is interfaced to an operational support system, and wherein the step of receiving user input comprises receiving user input from an interface to the operational support system that specifies a configuration operation on the virtual switch and one or more parameter values.